

IN THE CLAIMS

Please amend the claims as follows:

Claims 1-7 (Cancelled)

Claim 8 (New): An isolated polynucleotide which hybridizes to the complement of SEQ ID NO: 1 under stringent conditions and which encodes a polypeptide that enhances temperature tolerance of *Acetobacter* or *Gluconacetobacter*;

wherein stringent conditions comprise washing in 1 x SSC and 0.1% SDS at 60°C; and

wherein growth and/or acetic acid fermentation of an *Acetobacter* or *Gluconacetobacter* transformed with said polynucleotide is enhanced at a temperature above the optimal fermentation temperature for the corresponding untransformed strain.

Claim 9 (New): The isolated polynucleotide of Claim 8, which encodes the polypeptide of SEQ ID NO: 2.

Claim 10 (New): The isolated polynucleotide of Claim 8, which comprises SEQ ID NO: 1.

Claim 11 (New): A vector comprising the polynucleotide of Claim 8.

Claim 12 (New): A host cell transformed with the vector of Claim 11.

Claim 13 (New): The host cell of Claim 12, which is *Acetobacter* that exhibits enhanced growth and/or fermentation of acetic acid at a temperature above the optimal fermentation temperature for the corresponding untransformed strain.

Claim 14 (New): The host cell of Claim 12, which is *Gluconacetobacter* that exhibits enhanced growth and/or fermentation of acetic acid at a temperature above the optimal fermentation temperature for the corresponding untransformed strain.

Claim 15 (New): A method for producing acetic acid comprising culturing the host cell of Claim 12.

Claim 16 (New): An isolated polypeptide encoded by the polynucleotide of Claim 9.

Claim 17 (New): The isolated polypeptide of Claim 16, which comprises SEQ ID NO: 2.

Claim 18 (New): The isolated polynucleotide comprising nucleotides 73 to 1251 of SEQ ID NO: 1.

Claim 19 (New): The recombinant plasmid pUCGCS deposited as FERM BP-8217.